

REPORT

Prepared to Learn

The Nature and Quality of Early Care and Education for Preschool-Age Children in California

Lynn A. Karoly, Bonnie Ghosh-Dastidar, Gail L. Zellman, Michal Perlman, Lynda Fernyhough



LABOR AND POPULATION

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1776 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138

1200 South Hayes Street, Arlington, VA 22202-5050

4570 Fifth Avenue, Suite 600, Pittsburgh, PA 15213-2665

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Summary

In recent years, as California policymakers and the public have debated the merits of expanded preschool access and strategies for raising program quality, there has been only limited information about the nature and quality of the early care and education (ECE) arrangements of California's preschool-age children—those who are one or two years away from kindergarten entry. What percentage of children in California participate in ECE programs at ages three and four? What is the quality of the programs in which they participate? How do access and quality vary for children of different racial or ethnic backgrounds or for children from low-income versus high-income families? In the context of the policy debates, these are critical questions that have remained largely unanswered.

As part of our larger study focusing on the adequacy and efficiency of preschool education in California, this study component sought to answer these and other questions about preschool use and quality in California. To do so, we rely on newly collected data for a representative sample of preschool-age children in California designed to fill the information gap about the nature and quality of their ECE arrangements. In brief, the results of our study show the following:

- Use of center-based ECE programs—including Head Start programs, preschools, prekindergartens, nursery schools, and child-care centers—is the norm for California families with three- and four-year-olds.
- Latinos and socioeconomically disadvantaged children—those whose mothers have less education, those with low family incomes, or those in linguistically isolated families—participate in center-based ECE at lower rates than those in other racial-ethnic groups or who are more advantaged.
- Center-based ECE programs fall short on key quality benchmarks, particularly those related to early learning environments that foster school readiness and later school success.
- All groups of children in center-based ECE experience quality shortfalls, especially on those measures linked to early learning.

- The groups of children with the largest gaps in school readiness and later school achievement are the least likely to participate in high-quality center-based programs that will help them succeed in kindergarten and beyond.
- There is plenty of room for improving the quality of preschool for all children—and for raising preschool-participation rates for children who could benefit the most.

Before reviewing these key findings and their implications in more detail, we first provide a brief overview of the data collected for the study.

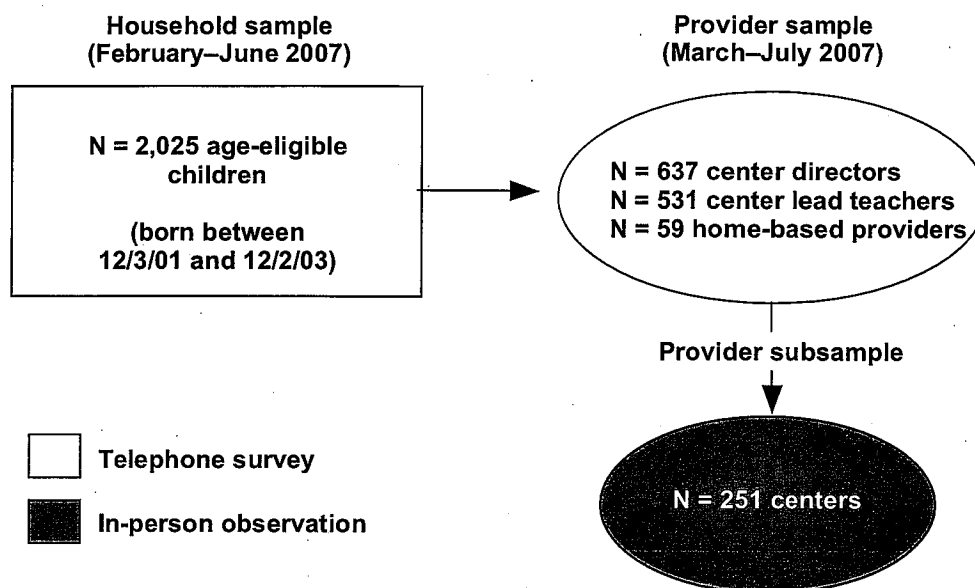
New Data to Fill the Knowledge Gap

The data collected for this study were designed to incorporate several features not available from existing sources: a representative sample of California children one or two years away from kindergarten entry, detailed information on the range of nonparental ECE arrangements, objective measures of ECE program quality, and sufficient sample sizes to analyze ECE utilization and quality for key population subgroups.

As shown in Figure S.1, the data collection, fielded in the first half of 2007, involved a combination of a telephone survey of households with preschool-age children linked to data collected through a telephone survey of center- and home-based ECE providers for the children in those households, as well as data collected through direct observation of a subsample of the center-based providers. When weighted to account for the sampling strategy and nonresponse, the results from the household and provider data are representative of the preschool-age population in California in two kindergarten-entry cohorts.

The household survey collected information for just over 2,000 children in two kindergarten-entry cohorts based on their birth date: the cohort eligible to enter kindergarten in the fall of 2007 (a group we label as four-year-olds) and the cohort eligible to enter kindergarten one year later (a group we label as three-year-olds). The interview with the focal child's parent or guardian centered on obtaining detailed information on the regular ECE arrangements for the child, including center-based early learning and child-care programs, as well as home-based care provided by a relative or nonrelative. Other topics covered background information on the child, the child's coresident parent(s), and the household, including income.

Figure S.1—Schematic of Data-Collection Approach



For parents with one or more regular care arrangements for their children, we asked permission to contact a main ECE provider to learn more about the ECE setting. The focal arrangement for follow-up was the center-based provider with the most weekly hours, if one existed. Otherwise, the home-based provider (relative or nonrelative) with the most weekly hours was selected. The resulting sample consists of about 700 cases with provider follow-up telephone survey data, mostly with center-based providers, with the goal of interviewing both the center director and the focal child's lead classroom teacher or caregiver.

Finally, to obtain more in-depth and objective information on the quality of the ECE arrangement, a random sample of the center-based providers interviewed by phone and located in the state's 32 most populous counties (representing about 97 percent of preschool-age children) were asked to consent to an on-site observation. For about 250 center-based programs, specially trained observers collected well-validated measures of multiple dimensions of ECE quality. In addition to structural measures, such as group sizes, child-staff ratios, and teacher qualifications, the measures included two subscales of the Early

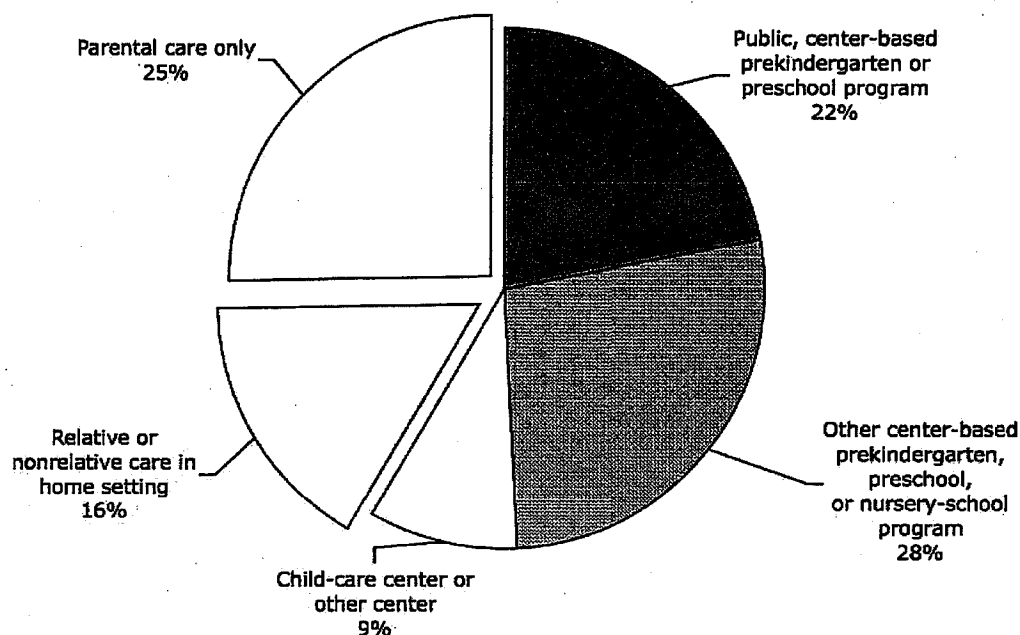
Childhood Environment Rating Scale, revised edition (ECERS-R) and the full set of the Classroom Assessment Scoring System (CLASS) scales, two global assessments of ECE quality that have been linked to child-development outcomes and later school performance.

Despite the advantages of the data collected for this study over existing sources, they are limited in several ways. Most importantly, although the data allow us to examine the full range of center- and home-based ECE arrangements for preschool-age children, analysis of ECE quality is limited to center-based settings. The study design did not incorporate assessments of care quality for children exclusively in home-based care (whether provided by relatives or nonrelatives) or the quality of care that children experienced who are exclusively in parental care. However, as we will see, the majority of preschool-age children, especially those who are one year away from kindergarten entry, spend at least some time in a center-based ECE program. Consequently, we capture quality for the dominant setting in which preschool-age children in California spend time before beginning kindergarten. It is also important to keep in mind that our study captures current patterns of ECE use, but those patterns may or may not reflect parents' preferences regarding ECE settings or time in ECE arrangements for their preschool-age children. Parents may be constrained in their ability to obtain their desired care choices by the ECE options available in the community and the cost associated with those options.

Use of Center-Based ECE Is the Norm for California's Preschool-Age Children

According to parent reports, most preschool-age children in California are in one or more regular center-based ECE programs—including Head Start programs, preschools, prekindergartens, nursery schools, and child-care centers (see Figure S.2). The estimated 59 percent of preschool-age children in center-based settings are in a mixture of public and private programs. Based on the center-based program in which they spend the most time and information provided by center directors about the type of program for the focal child, 22 percent of preschool-age children are in one of the following types of public programs: Head Start, a California Title 5 program (e.g., California State Preschool or General Child Care and Development), a county Preschool for All (PFA) program, or a public-school prekindergarten program. Another 28 percent are in a private-school prekindergarten or in a preschool or nursery school. Finally, about 9 percent are

Figure S.2—Most Preschool-Age Children in California Are in Center-Based Programs
(percentage distribution)



SOURCES: RAND California Preschool Study household survey and provider survey data.

NOTE: Sample is all children. Sample size is 2,025. When there are multiple ECE arrangements for a child, if there is any center-based ECE, the focal arrangement is the center arrangement with the most weekly hours. Otherwise, the focal arrangement is the home-based setting (relative or nonrelative care) with the most weekly hours. Totals may not sum to 100 because of rounding.

in a child-care center or some other center-based program (e.g., a recreation-center program).

The parent interviews further indicate that 16 percent of children are not in a center-based program but have one or more care arrangements in a home setting in which the caregiver may be a relative or nonrelative (a category that includes family child-care homes). The remaining 25 percent of preschool-age children have no regular care or early education arrangements with someone other than their parents. The pattern of ECE arrangements differs for the two age cohorts. Among four-year-olds, an estimated 67 percent participate in center-based settings, compared with 51 percent of three-year-olds. Three- and four-year-olds are in home-based care arrangements at about the same rate: 20 percent have one or more relative-care arrangements, while 13 percent have one or more nonrelative arrangements. While there is no difference by cohort in the

percentage in *any* home-based care, the younger cohort is more likely to be *only* in home-based care than is the older cohort (20 versus 12 percent). And among those only in home-based care, relatives care for a larger share of three-year-olds than of four-year-olds. In total, 75 percent of three- and four-year-olds are cared for by someone other than a parent on a regular basis in a center- or home-based setting. This figure is close to 80 percent for four-year-olds and 70 percent for three-year-olds.

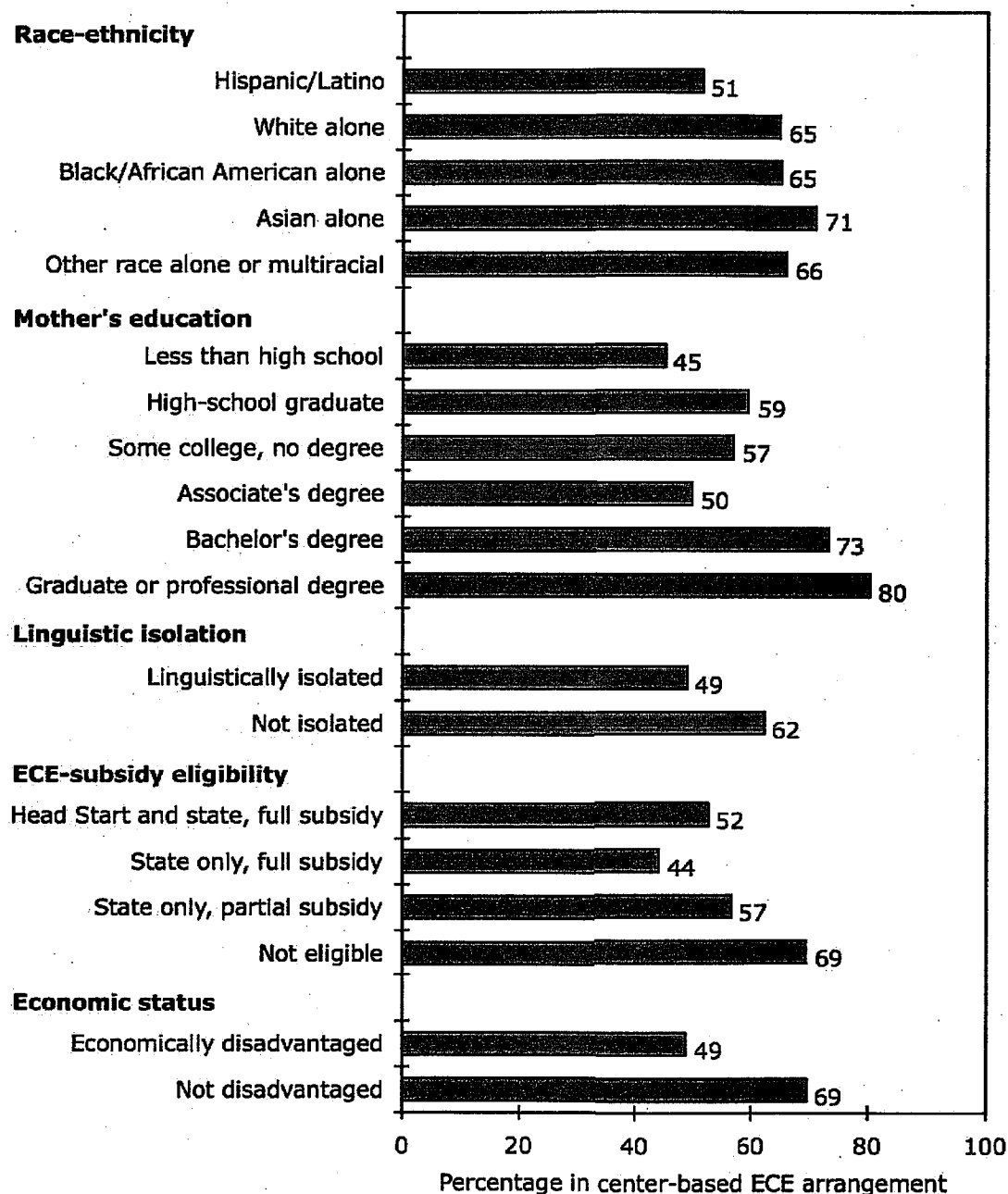
Disadvantaged Children Are Less Likely to Participate in Center-Based ECE Programs

Participation in center-based ECE programs is not uniform for different groups of preschool-age children (see Figure S.3). We find meaningful and statistically significant differences in use of center-based programs for children classified by race-ethnicity, living arrangements, nativity of the mother, mother's education, mother's school enrollment and employment status, the language spoken between the mother and child, linguistic isolation, and various measures of family economic status. However, some of these associations between ECE use and each separate child or family characteristic can be explained by the other background measures we examined.

For example, when children are classified by race-ethnicity, the lowest rates of use of any nonparental ECE arrangements and center-based arrangements is found for Latinos (51 percent). Asians have the highest rate of participation in center-based settings (71 percent). These patterns, however, can be explained largely by differences across racial-ethnic groups in other characteristics, such as maternal education, employment, and language status, as well as measures of family economic status.

Various economic status measures—family income, poverty status, eligibility for ECE subsidies, or a California Department of Education (CDE) measure of being economically disadvantaged—are strongly associated with ECE use, even after controlling for other characteristics. Generally, as economic status rises, so does the use of center-based ECE. There is some evidence of a dip in use of any ECE arrangements and center-based arrangements for families with income just above the federal poverty guideline (equal to \$20,000 for a family of four during the period covered by our data), as measured by those who meet only the state income-eligibility requirements for fully subsidized ECE (see Figure S.3). In this

Figure S.3—Use of Center-Based ECE Is Lowest for Socioeconomically Disadvantaged Groups



SOURCE: RAND California Preschool Study household survey data.

NOTE: Sample is all children. Total sample size is 2,025. For mother's education, the associate's degree category includes those with a vocational/technical diploma and the bachelor's degree category includes those who have some post-baccalaureate education but no degree. Linguistic isolation is defined as no parent speaking only English or English very well. ECE subsidy status is defined based on the income-eligibility cutoffs for Head Start and the CDE income ceilings for state-administered programs. Economic disadvantage is defined as having income below 185 percent of the poverty threshold or the highest parent education below a high-school diploma. A joint test of the null hypotheses that use of center-based ECE is equal across groups is rejected at the 5 percent level of significance for each characteristic.

income range, families are not eligible for Head Start, and, although they can be eligible for state-subsidized programs, such as California State Preschool, they may not obtain a space because the state programs are underfunded and the lowest-income families get priority. However, those same families' incomes are low enough that nonsubsidized ECE arrangements may not be affordable.

Mother's education, another socioeconomic factor, also shows a strong positive relationship with the use of center-based programs. This is another factor that remains significant even after controlling for other background characteristics, such as family economic status and race-ethnicity.

Language status is another factor associated with use of center-based arrangements. Linguistic isolation—families in which no parent speaks only English or English very well—is associated with lower ECE use, although this pattern does not hold when other characteristics are controlled for. When we differentiate children by the language of mother-child communication, those who speak an Asian language alone or in combination with other languages (usually English) have the highest rates of use of center-based ECE. This pattern persists even after controlling for other characteristics. Although children who communicate with their mothers in Spanish have the lowest use of center-based arrangements, they are no different from those who speak only English after other characteristics are controlled for, such as maternal education and family income.

Quality of Center-Based Programs Is Mixed

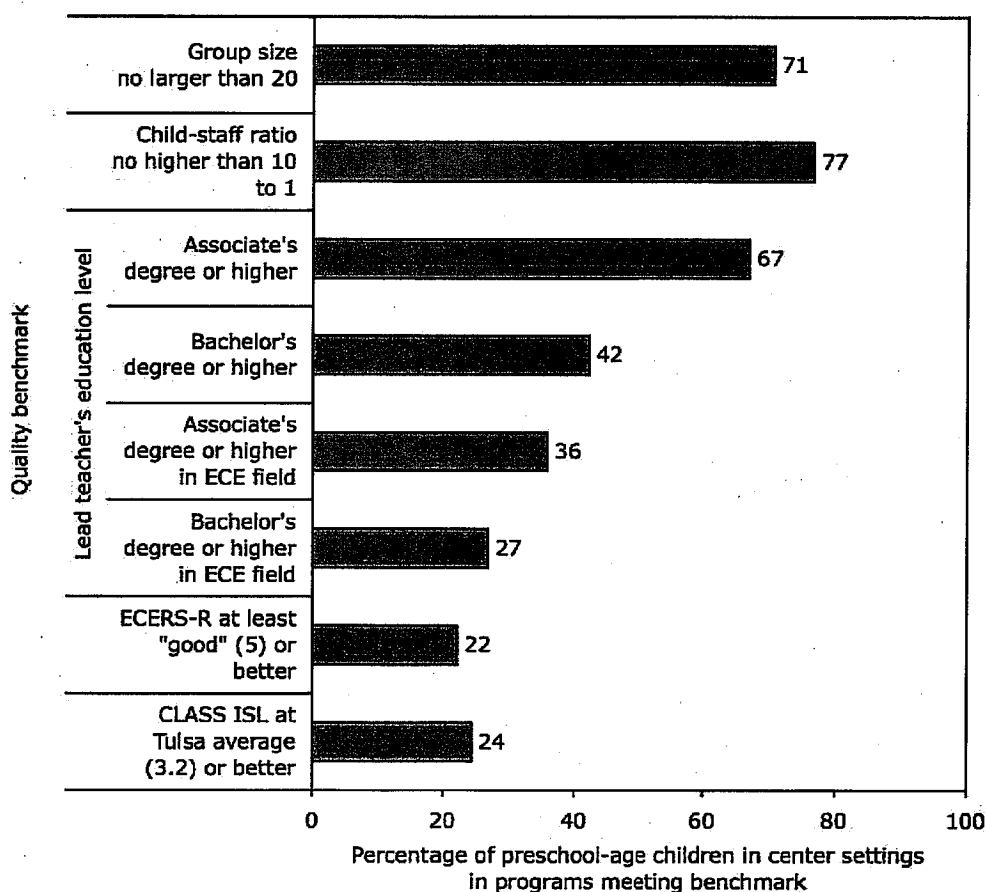
Preschool-age children are in a diverse array of center-based ECE settings, reflecting the mixed public-private delivery system. Center-based programs vary in terms of location, religious affiliation, nonprofit status, subsidy mechanisms, program availability, services provided, and language in the classroom. In terms of quality, we follow the child-development literature and treat quality in center-based programs as having multiple dimensions, broadly classified into two domains:

- *Structural quality* includes such program features as group size, child-staff or child-adult ratios, teacher education and training, curriculum, and health and safety practices. Federal or state program requirements or state licensing requirements set minimum standards for most of these features.

- *Process quality* refers to what goes on in the classroom, such as the activities in which children engage, the nature of teacher-child and peer-to-peer relationships, the management of the classroom and use of time, and teachers' approaches to fostering learning and healthy development.

Based largely on the independent classroom observations of structural and process components, we find that the quality of the experience of preschool-age children in center-based settings in California varies with the component of quality that is examined (see Figure S.4). Programs are more successful in

Figure S.4—Quality in Center-Based ECE Programs Is Lowest for Key Measures of Quality



SOURCES: RAND California Preschool Study provider survey data and provider observation data.

NOTE: Sample is children in center-based ECE arrangements. Sample size is 615. ISL = Instructional Support for Learning.

meeting quality benchmarks for group sizes and ratios and score higher on measures of the classroom environment that focus on emotional support, classroom management, and student engagement. The largest shortfall occurs on the extent to which teachers promote language development and the higher-order thinking skills that help prepare children for kindergarten. Other aspects of quality with room for improvement are teacher education and training, the use of research-based curricula, and basic health and safety measures.

Group Sizes and Ratios

According to child-development experts, the size of the classroom group and the ratio of children to staff or adults (where the latter includes both staff and volunteers) are considered key elements of structural quality in ECE settings. Typical benchmarks for high-quality programs serving preschool-age children specify a maximum group size of 20 and a maximum child-staff (or child-adult) ratio of 10 to 1.

Based on on-site observations, we estimate the average group size for preschool-age children in center-based settings to be about 18 children, better than the typical quality benchmark of 20 children. Overall, 71 percent of children are in programs that would meet that benchmark (see Figure S.4). If the group-size benchmark were 24 children (the effective maximum for California Title 5 programs), 88 percent of preschool-age children would be in programs meeting that standard.

Based on the ratios collected during the on-site observations, the average ratio for preschool-age children in center-based programs is about 8 to 1 counting only staff and just under 7 to 1 including volunteers. Using a benchmark of 10 to 1 as typically specified for high-quality programs, an estimated 77 percent of children would meet this standard if only staff are counted and 91 percent if volunteers are included, too (see Figure S.4). However, these percentages shrink by about 20 percentage points if we consider the maximum ratio during the observation period, indicating that it is quite common for preschool-age children in California to be in center-based settings in which the benchmark child-staff or child-adult ratio recommended for high-quality programs is not met at some point during the day.

Teacher Education and Training, Curriculum Use, and Health and Safety Practices

Although the child-development field has yet to reach a consensus regarding the education and training requirements for ECE teachers to be effective, recommended benchmarks typically specify at least an associate's degree, if not a bachelor's degree, as well as specialized child-development training. In California, there is no requirement for a postsecondary degree in either the Title 22 licensing requirements for centers serving preschool-age children or the Title 5 program standards for CDE-administered child-development programs. Even so, based on the information provided by lead teachers during the telephone interviews, we estimate that 67 percent of preschool-age children in center-based settings have lead teachers with at least an associate's degree, and 42 percent have a teacher with a bachelor's degree or higher (see Figure S.4). Those percentages drop to 36 and 27 percent, respectively, for a combination of an associate's or bachelor's degree in the ECE field.

Although there is no research basis for singling out one or more curricula as superior to all others, the child-development literature does indicate that having a planned curriculum—one that specifies the goals for child learning and development and how to achieve those goals—is better than having none. Use of a curriculum is a near-universal feature of center-based programs that serve preschool-age children in California, according to the lead-teacher telephone interviews. However, using a generous estimate of what constitutes a research-based curriculum, fewer than half of three- and four-year-olds are estimated to be in programs that use a named curriculum with a foundation in child-development research. Many programs rely on a curriculum developed in house that may or may not have a strong research foundation.

In terms of health and safety, there are lapses in following routine practices that would be expected for ECE programs under state licensing or standard accreditation requirements for maintaining a clean, safe, and sanitary environment. On average, we estimate that preschool-age children are in classrooms in which 74 percent of the 12 health and safety items on the on-site observation checklist were met. The items that were least likely to be met were having protected electrical outlets, secured exits, and a fire extinguisher in the classroom. If we use a benchmark that allows at most one missed health or safety practice of the 12 checklist items, just 18 percent of children would be in programs meeting that benchmark. Allowing up to two missed features would increase the benchmark rate to 47 percent of children. Notably, about 10 percent

of children are in programs in which the teacher reported that there is not always an operating smoke detector in the classroom, a concern even at that low rate of prevalence.

Classroom Environment and Interactions

The ECERS-R, scored on a range of 1 (inadequate) to 7 (excellent), is a widely used instrument for assessing quality in center-based ECE programs. Two of the seven subscales were scored during the on-site observations: Space and Furnishings and Activities. We use a combined score of 5 (good) or higher as a benchmark for quality programs. On average, preschool-age children in center-based settings are in programs with an estimated average of 4.1 on the two subscales combined. This average falls between the minimally acceptable level (a score of 3) and good level (a score of 5). Based on the combined score across the two subscales, 16 percent of children are in programs that fall below a score of 3, while just 22 percent score at a 5 or higher, the good to excellent range (see Figure S.4).

The CLASS assessment is increasingly used as a quality measure to complement ECERS-R. It too is scored on a range of 1 to 7, and the 11 scored dimensions are aggregated into four domains (see Table S.1). For California preschool-age children in center-based settings, three domains have an estimated average score about 5, the high end of the middle score range (a score of 3 up to 6): Emotional Support (mean score of 5.5), Classroom Organization (mean score of 4.9), and Student Engagement (mean score of 5.3). For the first and third domains, about one-third of children are in programs that score between 6 and 7, the high end of the scale.

The biggest shortcoming is the Instructional Support for Learning (ISL) domain, which has an estimated mean score of 2.6, on the low end of the scale. The low score on this domain signals that, while center-based programs may be succeeding in some measure in providing an engaging, emotionally supportive, and well-managed environment for learning, teachers are not as successful in promoting higher-order thinking skills, providing quality feedback, and developing students' language skills. Other research has shown the ISL score to be one of the strongest predictors of gains on cognitive assessments and subsequent student-achievement tests, so the shortfall on this dimension is of particular concern. By comparison, the Tulsa, Oklahoma, classrooms that are part of the state's universal preschool program, which has been evaluated and shown to produce favorable effects on school readiness, have an average ISL score of 3.2,

Table S.1—CLASS Domains Capture Various Aspects of What Teachers Do in the Classroom

CLASS Domain	What It Measures
Emotional Support	<ul style="list-style-type: none"> • The enjoyment and emotional connection that teachers have with students, and the nature of peer interactions • The level of expressed negativity, such as anger, hostility, or aggression, exhibited by teachers or students • Teachers' responsiveness to students' academic and emotional needs • The degree to which teachers' interactions with students and classroom activities place an emphasis on students' interests, motivations, and points of view
Classroom Organization	<ul style="list-style-type: none"> • How well teachers monitor, prevent, and redirect behavior • How well the classroom runs with respect to routines, how well students understand the routine, and the degree to which teachers provide activities and directions so that maximum time can be spent in learning activities • How teachers engage students in activities and facilitate activities so that learning opportunities are maximized
Instructional Support for Learning	<ul style="list-style-type: none"> • How teachers use instructional discussions and activities to promote students' higher-order thinking skills and cognition in contrast to a focus on rote instruction • How teachers extend students' learning through their responses and participation in activities • The extent to which teachers facilitate and encourage students' language
Student Outcomes	<ul style="list-style-type: none"> • Overall level of engagement of students in the classroom

SOURCE: Pianta, La Paro, and Hamre (2006).

a meaningful difference from California's average, given the score range (equal to about 0.6 standard deviations). By our estimates, about one in four preschool-age children in California is in a center-based setting that would equal or exceed the Tulsa average ISL score (see Figure S.4).

All Groups of Children Experience Low Scores on Quality-Rating Scales

With a few exceptions, in comparing the quality measures across groups of children, the estimated differences tend to be modest. In other words, where dimensions of quality are high, on average, such as for meeting benchmarks on group size or ratios, higher quality is also evident for most groups of children classified by various socioeconomic characteristics. In the same way, when average quality is low, such as for the combined ECERS-R score or CLASS ISL domain, the lower level is shared by most groups of children.

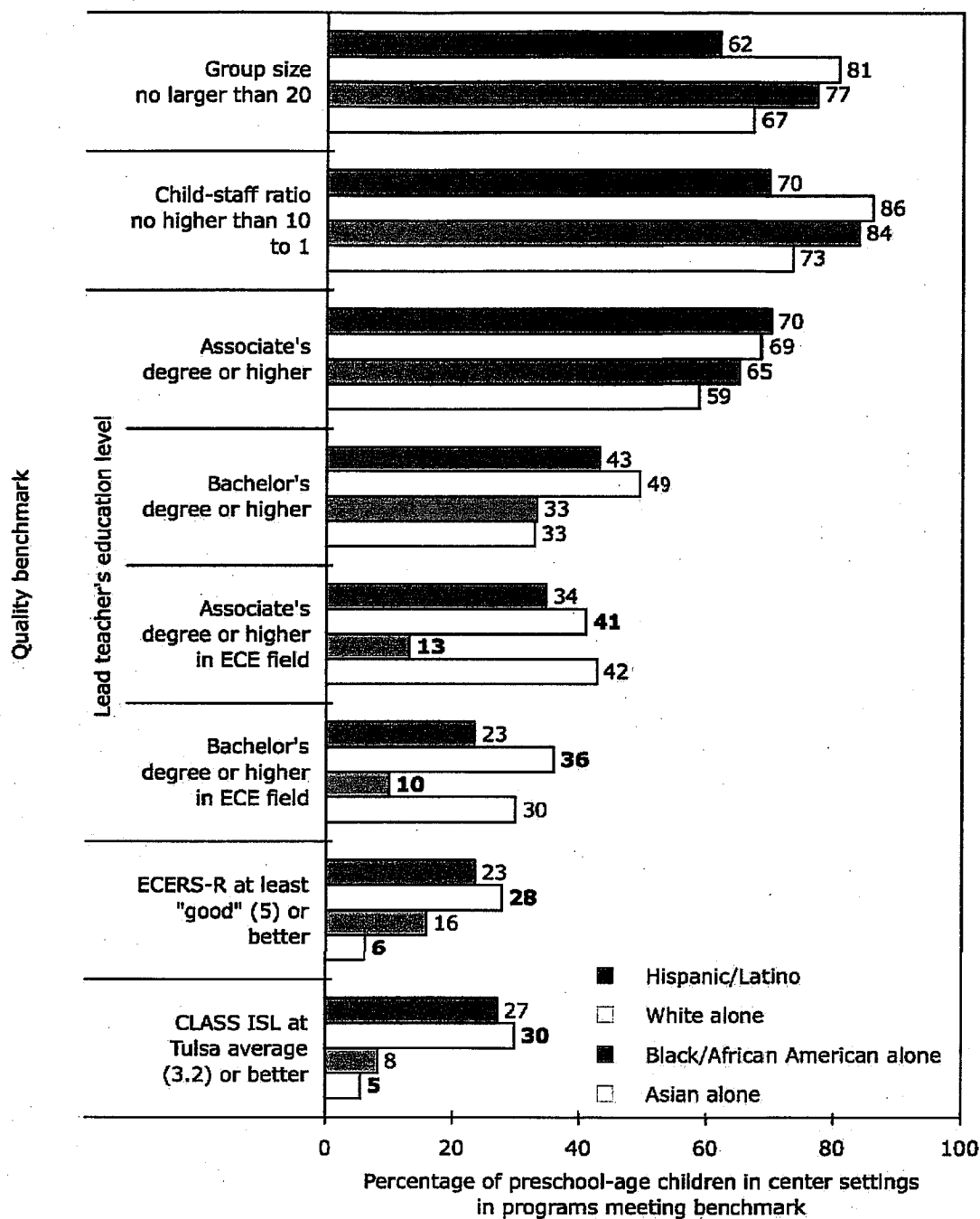
There are two exceptions for which we find somewhat more pronounced differences across groups, although the smaller sample sizes available for our analysis of center-based quality means that there is more uncertainty in our estimates of the differences. In particular, we find differences in some quality measures among children defined by race-ethnicity (see Figure S.5). For example, just 13 percent of African American children are estimated to be in classrooms in which the lead teacher has an associate's degree or higher in the ECE field, compared to a maximum of 41 percent for whites and 42 percent for Asian children. Latino children fall in between with 34 percent. On other quality measures, African Americans usually (and Asians sometimes) are in programs that score lower on key quality dimensions, while whites (and sometimes Latinos or Asians) tend to be in programs that score higher.

Differences in quality measures are also evident when children are classified by family income, although not always in the expected direction. For example, on measures of teacher education, children in poverty are more likely to be in classrooms with more educated teachers. The ECERS-R and CLASS scores, however, tend to be higher as income rises, although, when income is above 500 percent of the poverty line, the scores are lower than when income is 300 to 500 percent of that line.

Several measures of quality are highest for California Title 5 programs (e.g., California State Preschool) and public prekindergarten programs and, to a lesser extent, Head Start programs. For example, children in these programs are more likely to reach the benchmark of having a lead teacher with a postsecondary education. Forty-seven percent of children in a Title 5 or public-school prekindergarten program are estimated to have a lead teacher with a bachelor's or higher in the ECE field, compared with just 11 percent of those in private-school prekindergartens or 13 percent of those in child-care centers, differences that are statistically significant. These program types also have a higher percentage of children in programs that meet benchmark levels for ECERS-R and CLASS.

Although these differences in quality by child and family characteristics and program type suggest that some groups of children in center-based settings experience higher quality than others, all of the groups we examined still fall short, often by large margins, of the quality benchmarks that measure aspects of the classroom environment that are tied to later school success. Even for the socioeconomic groups with the highest quality scores—for example, whites or those with incomes between 300 and 500 percent of the poverty level, the average

Figure S.5—Larger Differences in Key Dimensions of ECE Quality Are Found Across Racial-Ethnic Groups



SOURCES: RAND California Preschool Study household survey data, provider survey data, and provider observation data.

NOTE: Sample is children in center-based ECE arrangements. Sample size is 615. Numbers in bold indicate groups with statistically significant pairwise differences at the 5 percent level of significance based on single inference.

ECERS-R score falls below the “good” level and the CLASS ISL score falls short of the Tulsa average. The same is also true for the best-performing program types: Title 5 or public-school prekindergarten programs. These results indicate that there remains much room for quality improvement for both disadvantaged and advantaged children. The need to raise quality also extends to both public and private program types.

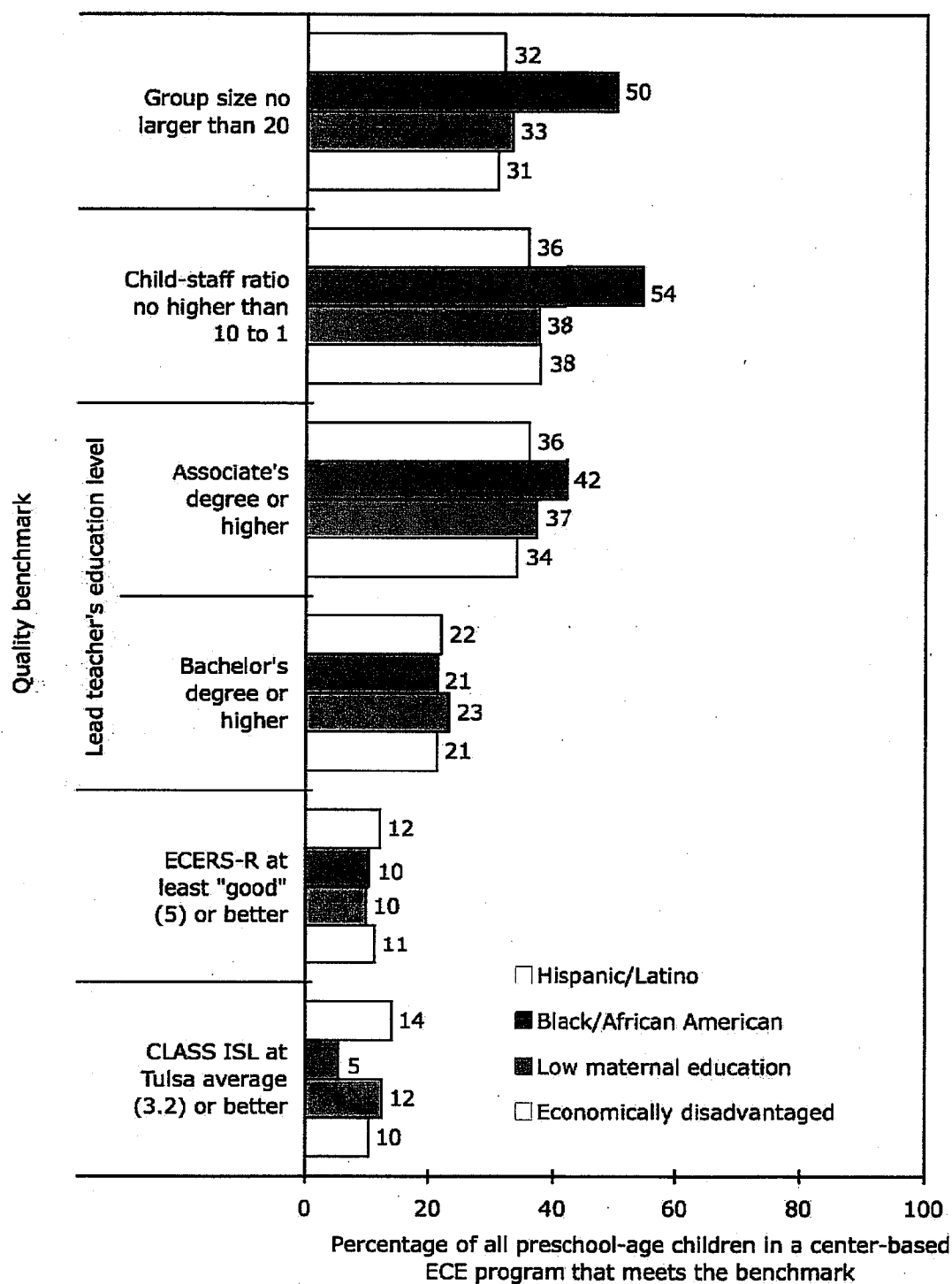
Implications for Early Education Policy in California

These findings have several implications for early education policy in California. While a more comprehensive analysis of policy options and recommendations will be undertaken as part of the final companion study, we highlight four implications that readily follow from these findings.

Participation in High-Quality Center-Based Programs Is Low for Groups of Children Who Could Benefit the Most

The first report in our larger study of preschool adequacy and efficiency in California examined gaps in school readiness and student achievement in the early elementary grades and identified several groups of children with lower measures of school readiness and subsequent academic performance: Latinos and African Americans, those with low parental education, English-language learners, and those from economically disadvantaged families (defined by CDE as children in families with low income or low parental education). Our analysis shows that these groups of children have low use of high-quality center-based ECE programs (see Figure S.6). For example, if quality is measured by group size, the child-staff ratio, or the education level of the lead teacher, anywhere from about 20 to 50 percent of preschool-age children in the groups with the largest school-readiness and achievement shortfalls are currently participating in center-based ECE programs that meet quality benchmarks. If instead we rely on ECERS-R and CLASS to measure quality, only about 10 to 15 percent of preschool-age children in the groups that could potentially benefit most are in higher-quality center-based ECE programs. These low rates of participation in programs with features associated with improvements in school readiness and academic achievement represent a missed opportunity to promote the cognitive and social development of more disadvantaged children through effective preschool programs.

Figure S.6—Participation Rates in High-Quality Center-Based ECE Programs Are Low for Groups with Largest School-Readiness Shortfalls



SOURCES: RAND California Preschool Study household survey data, provider survey data, and provider observation data.

NOTE: Sample is all children. Sample size is 2,025. Low maternal education is defined as high-school diploma or less.

There Is Scope for Expanding the Use of Center-Based Programs by Underserved Groups

Our data suggest that there is a substantial usage gap in center-based ECE, particularly for groups of children who face shortfalls in school readiness and later school performance. Underserved groups include Latinos, children whose mothers have low education, children whose parents are linguistically isolated, and those in families with low income. For example, the differential use of center-based ECE between Latinos of Mexican origin and whites is 15 percentage points. That gap reaches 30 percentage points when children at low and high levels of family income relative to poverty are contrasted and extends to 35 percentage points between children whose mothers have less than a high-school diploma and those whose mothers have a degree beyond the bachelor level. As a point of comparison, participation rates reach nearly 70 to 80 percent, respectively, in Oklahoma's universal preschool program and New Jersey's targeted Abbott preschool program. When those rates are combined with children in private programs, the overall rates of participation in center-based ECE programs in these other states are about 30 to 40 percentage points higher than current participation rates in center-based programs by underserved groups in California.

These lower rates of use may reflect differences in preferences over ECE arrangements, but other factors likely play a role as well. For example, our analysis of parent reports regarding the importance of various factors in the choice of ECE arrangements shows that parents in more disadvantaged socioeconomic groups place more weight than other parents do on factors that affect access to care, such as cost, the provider's schedule, and location. The importance of affordability may account for the dip in use of center-based programs when income is too high to qualify for Head Start or to receive priority for enrollment in California Title 5 programs but is too low to pay for unsubsidized ECE arrangements. In addition, our estimates show that the percentage needing care during nonstandard hours is highest—upwards of 30 percent for evening care and 20 percent for weekend care—for a number of the underserved groups, including Latinos, African Americans, and those with low maternal education or low economic status. Families that need care during nonstandard hours may not have the additional resources required for their children to participate in early learning programs that are typically available during standard operating hours.

At the same time, it is not sufficient to just raise ECE participation rates among underserved groups if the quality of the programs they attend does not reach the level required for promoting school readiness and later school success. The first report in this study cited the research evidence of the favorable effects of early learning programs on child outcomes. Yet all those programs are ones that would meet or exceed the quality standards we have reviewed here.

There Is Scope for Raising Quality Across the Board

According to our estimates, shortfalls in center-based program quality—especially for key dimensions that influence child development—are not confined to certain groups of children. Rather, time spent in ECE classrooms with low scores on quality measures, such as ECERS-R and CLASS, is a shared experience across the socioeconomic spectrum and among different demographic groups. Thus, while the low rates of participation in center-based ECE programs are an issue for targeted populations, the need to raise center-based ECE program quality is universal. Although we find that more advantaged groups of children have higher rates of participation in programs that meet quality benchmarks, this is because these children have higher rates of participation in center-based settings in general, not because the level of quality they experience in those programs is so much higher. In fact, for some of the quality measures, the most advantaged groups, such as those with the highest income relative to the poverty line, are estimated to have lower levels of quality than those with somewhat lower income.

Our finding that a number of quality dimensions are highest for children in publicly subsidized programs, such as California Title 5 child-development programs, public-school prekindergartens, and Head Start, suggests that attention to quality can pay off. Further evidence to this effect comes from an evaluation by the American Institutes for Research (AIR) of centers participating in the San Francisco and San Mateo PFA initiatives, which tie reimbursement rates for the publicly funded programs to quality features. For the PFA programs observed in those two counties, AIR found average scores on the CLASS subscales that exceeded those for Tulsa's effective preschool program. While these are the only two county PFA initiatives that have been assessed to date using CLASS, these results indicate that improvements in quality are possible when quality is emphasized, the technical support needed to get to the highest quality level is supplied, and a financial reward (through higher reimbursement rates) for achieving higher quality is available.

Quality Initiatives Need to Focus on Elements That Are Key to Kindergarten Readiness

By examining both structural and process aspects of quality, we have a more complete picture of the dimensions on which center-based programs in California are doing relatively well and the dimensions that have the greatest need for improvement. Our estimates indicate that a substantial percentage of preschool-age children in center-based programs are in programs that would meet well-established benchmarks for group size and ratios. Building on that foundation requires advances in other dimensions of quality in which current levels are not as high. Teacher education and training should be one area of focus. While there is ongoing debate in the literature about the necessary credentials for preschool programs to be effective, there is a recognition that the quality of teacher-training programs and ongoing professional-development opportunities are important no matter what the level of degree attainment. Such training and professional-development opportunities provide teachers with the tools to succeed at the more challenging aspects of early education, such as those captured in the CLASS ISL domain relating to instructional approaches to promote higher-order thinking, techniques for providing feedback that deepens children's learning experiences, and methods for fostering student's language development. Attention is also needed to advance the quality dimensions represented in ECERS-R, such as those measured in this study for Space and Furnishings and Activities.

These aspects of program quality—those captured in CLASS and ECERS-R—are potentially the hardest for parents to judge as they make decisions about center-based ECE providers. Although our analysis suggests that program features, such as teacher education and child-adult ratios, can provide a gauge for identifying those classrooms that would score higher on the quality aspects captured in ECERS-R or CLASS, they do not provide a very strong signal for these key dimensions of quality. Parent responses regarding the factors that affect their choice of ECE providers indicate that considerable weight is already given to the more visible program features that can signal program quality, such as teacher qualifications and group sizes. Thus, consideration must be given for how best to address the information gap that parents face regarding key quality dimensions as they attempt to make the best ECE choices for their preschool-age children.